



It's Not Just for Kids Anymore

Lending color to your locksmith tools can increase productivity and performance — and help you see the color of money.

By William M. Lynk,
CML, CPS



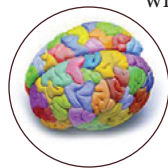
OTTON CANDY, LIFESAVERS, POPSICLES, M&Ms and Skittles — what fun. But are hot hues and cool colors only for kids?

Actually, within the adult world, color is used systematically in electrical wires, medical files, stop lights, pill organizers, school books, telephone cables, underground utility locator flags, weather evacuation codes, Homeland Security status indicators — and the list goes on.



There's a simple reason why colors are so omnipresent in industry, education, nature, science, security and other areas: association. The human mind quickly associates colors

with objects or actions. That's why on the beaches of San Diego, colored signs appear at small intervals, alerting swimmers who veer off course. Haven't most



of us remembered through association the color of a parking level sign, along with a letter or number, so we can return to our car? Color does the trick.

As locksmiths, have we been missing the boat regarding the value and significance of color-coding within our segment of the security industry? To answer that question, I'll take a cursory look at the world around us to see how color-coding adds to safety, accuracy and efficiency. Then I'll show how color is increasingly used by security professionals — from color-coded wires in electronic access devices to colored key blanks; from colorized bottom tumbler pins to hex wrenches; and in a revolutionary color-coded SFIC system.

Color-Coding Examples

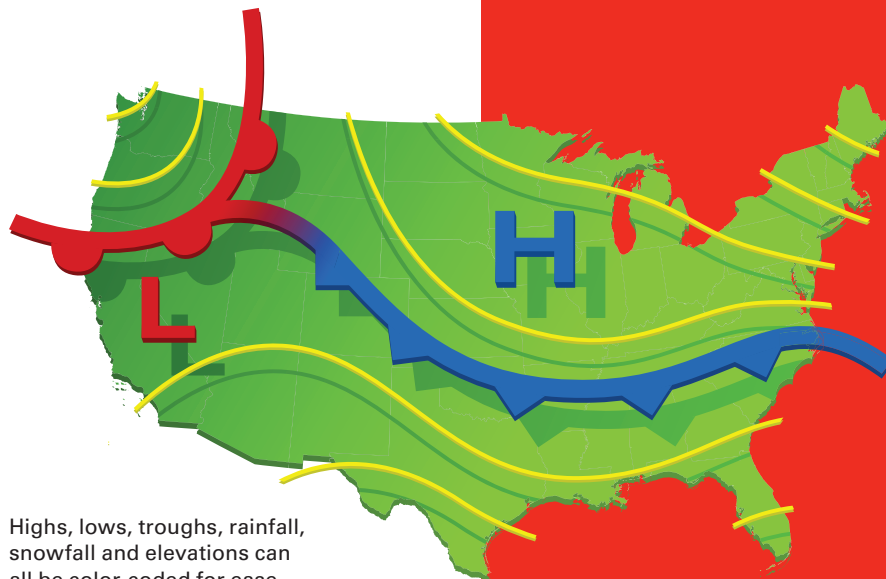
What influence does color usage and color-coding have on you? If you haven't noticed, quite a bit.

When you drive on a busy street, you instinctively stop at a red light; you notice when it's turning yellow, and slow down (or speed up); and you proceed when you see green. Imagine if there were no light colors, just words: stop, caution and go. Letters are abstract symbols that have to be pieced together to form a word, and then it has to be interpreted to give us some sort of contextual meaning. How effective would that be?



Some of the earliest examples of color-

“Color-coding aids in efficiency and accuracy, promoting increased production.”



Highs, lows, troughs, rainfall, snowfall and elevations can all be color-coded for ease of interpretation. Color adds impact that text or black-and-white images can't convey.

Color My World

We all marvel at the splendor of a rainbow at the end of a summer downpour, but are you aware that it is the basis for color-coding systems? Because of the way sunlight is refracted through our atmosphere, the spectrum of visible light is organized from red to violet. Remember from grade school science lessons the guy named Roy G. Biv? His fictitious name spells out the order of the colors within the rainbow: red, orange, yellow, green, blue, indigo and violet. People have creatively taken what nature invented and used this color pattern in many useful ways. — WML

Color-coding adds a welcome layer of safety in a fast-paced and hurried world. Even hospital emergency codes often incorporate colors, such as the widely used and well-known “Code Blue” indicating a cardiac arrest.



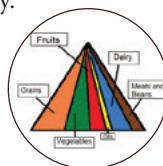
coding still in use today came from long-distance communication by use of colored flags. A color-code scheme for this type of communication was created by the United Kingdom, where a red flag signifies danger and a white flag signifies safety.

In America, the USDA has spent millions of dollars promoting the food pyramid, which is divided into color sections related to food consumption. Municipalities have also become color-conscious for the efficiency of public workers, as well as for the easy display of leaf collection routes for residents, for example.

Meanwhile, large corporations to small business have realized the safety of color-coding and have implemented it into their processes. For instance, bar code labels are colorized to aid in efficiency. Tanks of gases such as helium, oxygen, carbon dioxide, as well as many other toxic gases have been



labeled, not only with text, but also by painting the containers various colors. What's more, color-coded shipping placards have been used for decades to indicate specific chemical cargo moving across the transporta-



tion system. Other examples:

- Artillery shells and other munitions are color-coded according to their pyrotechnic contents.
- Cleaning companies color-code the floor plans of buildings so that employees know which chemical treatments to use in specific rooms and areas.
- Devices within audio, computer and information technology environs use color-coding. As you know, red and black go well for speaker connections, where as RCA cables tend to use red, white and yellow, though green, blue and orange are also used.



Learning Your Colors

Educators not only teach children colors, but they also use color-coding to make it easier for children and adults to function effectively. Kids learn to quickly identify which music book is their grade level based on color. Publishers coordinate the grade-level colors with corresponding charts, transparen-



cies, supplemental books and hands-on materials to match.

Piano teachers accomplish repeated octaves on the keyboard by differentiating the seven note names with different colors. Relationships can easily be established, and some say that perhaps there is a “color” tone-image associated to each note of the scale. Russian composer Alexander Scriabin professed that to be true in the late nineteenth century.

Other learning examples:

- On the periodic table of elements, the elements are grouped together based on various similarities — but they all look the same on the chart. Color-coding may be one of the few sane ways to make sense of this large group of analogous boxes.

Periodic Table of Elements

Color-coding legend:

- alkali metals
- alkali earth metals
- transition metals
- metalloids
- nonmetals
- halogens
- noble gases

- Color-coding helps students learn regions of the United States by assigning specific colors to associated groups of states.
- For children and adults with physical challenges such as vision or motor-skill impairment, special computer keyboards have been designed. The keys are color-coded based on vowels, consonants, numerals, symbols and functions.
- And what teacher, school student or locksmith student has not used colored highlighters to support varied learning styles?



Think about color, color-coding and color usage, especially in the spectrum order, and children often pop into mind. Perhaps they know something we do not about the basic nature of color? Or maybe we have just forgotten?

Taking the “Ouch” Out of Color-Coding

For years, doctors have had the foresight to strategically organize their patients’ charts using color-coded labels. Why are color-coded files more efficient than an alphabetic filing system? Because the use of color is a visual marker that restricts the area of a search for a specific medical record. A chart that’s misfiled can easily be spotted, even from a distance.



A specific color is assigned to represent each letter of the alphabet — that is, for the patient’s last name. Sometimes a color label is used to indicate a year, so it is visually easy to discern when a patient was last in to see the doctor.

Perhaps even more important within the medical field is the need to quickly identify a particular medication. Colors and shapes play into safety, accuracy and efficiency. Medications taken in conjunction with others can be assigned a daily color in a plastic pill case to lesson confusion or mix-ups.



This concept is especially vital when



Some beaches use color-coded flags to indicate hazards and conditions vital for the swimmer’s safety.



BEST Lock Company colorized their original A2 (red), A3 (green) and A4 (orange) combinators.



The colorful automotive key blanks of the 1970s have been resurrected.

“The white key is usually the control key, or top master, and the remaining keys can serve as masters, change keys or special use keys. The unique feature here is that all keys come with a color head; it’s not an add-on option.”

parents have to administer medications to children. Parents often worry about measuring the dose incorrectly when administering fever medication to their children. To preempt this problem, color-coded kits are provided to parents, including a color-coded wall chart, a color-coded syringe, an adapter for medicine bottles, and instructions for administering over-the-counter fever medicines.

Security and Colors Go Hand-in-Hand

Color-coding is also invaluable within the security field. Familiar to most adults is the now-obsolete Homeland Security Threat Level Warnings, color-coded from a low green to a high red. The National Terrorism Advisory System (NTAS) replaces the Homeland Security Advisory System that was in place since 2002. The NTAS will include information specific to the particular credible threat, will not use a color-coded scale and will announce threats via Washington, D.C. The reason for this change was that the color-coded system never went below orange (high risk), so the need for color differentiations was diminished.



Locksmiths in particular have been introduced to some interesting color-coded options, as far back as the 1970s. Do you remember the colorful, lightweight aluminum automotive key blanks? Even though their durability was poor, they have been resurrected. One website touts that car owners like them because they accentuate their car keys amidst a ring of nondescript keys. Car enthusiasts just think they’re cool. Volkswagen has introduced colored key fobs to sustain every VW owner’s color whim, al-



lowing them to “unlock the rainbow.”

BiLock High Security Systems tapped into the use of color-coding many years ago. The white key is usually the control key, or top master, and the remaining keys can serve as masters, change keys or special use keys. The unique feature here is that all keys come with a color head; it’s not an add-on option. This allows the end-user to be creative in the effective use of key colors in their facility. Mul-T-lock also used the concept with colored inserts on the bow of the key. Differentiation is a valuable asset to end-users.



Jet Keys has recently announced a line of STAT keys. These keys are used primarily for emergency use, when, as Jet says, “Every second counts.” The blanks are stamped with either “Emergency” and are coated in red, or say “Electric” and are in blue. They are available in SARGENT, BEST, Schlage, Yale and Corbin Russwin, and are available in various common keyways.



Locksmiths who work with access control are familiar with color-coded indicators for various states of access presented in software programs. A quick glance can reveal important changes that might not be readily evident with text-only displays.

For many years LAB has offered color-



coded pins for locksmiths. This concept was originated by Zipf Lock in Columbus, Ohio. One advantage of the colored pin is seeing when a pin has accidentally fallen into an adjacent pocket. When time is money, pinning up a cylinder incorrectly can cost valuable time. This alleviates that situation. In some instances, it's not advisable to use colored bottom pins in cylinders. Scoping a plug containing colored bottom pins could allow for decoding, although for many interior master keyed applications, this is not a concern.

Tooling Around in Color

The tool marketplace has seen fit to colorize a number of tools, from screwdrivers and screw tips to wrenches and hex key sets.



Quickly going for a specific color eliminates having to search and squint for a small, engraved fraction somewhere on the side of the tool. Remember, color-coding aids in efficiency and accuracy, promoting increased production.

BEST Lock Company has used color-coding for decades in a basic way: They colorized their original A2, A3 and A4 combinators (BEST's term for a key punch). However, their current punches are not colorized. Their vintage standard A2 punch was painted red, A3 (discontinued) was green, and A4 was orange. They did not extend this color system to pins, key gauges or other tools within their system, though Ultra Security did.

The QU-I.C.-Key System for small-format interchangeable cores was invented in the

late 1990s by Ultra Security. Their goal was simple: to color code the entire combining process, from beginning to end, so that even a child could efficiently and effectively pin a core with the color-coded tools and punch the keys accurately the first time.



The QU-I.C.-Key is a color-coded wheel (in the order of the rainbow) that manually turns to show the pin stacks and the key combination all at the same time. Pin stacks are oriented as they are in the pin chambers. Red (to the far left) represents the #1 chamber to the back of the core. Subsequently, orange yellow, green, blue violet and grey (for a 7-pin core) resides to the right.

When loading the core, the QU-I.C.-Load tool is used, complementing the same color arrangement. When ejecting a pin stack from the bottom of the core, it is also color-designated to match. No more wondering which chamber to eject by counting or guessing.

When the core is combined and it's time to test the keys, one can use the QU-I.C.-Test tool to make sure the core is properly combined before capping. The spring-loaded trumpet pins put gentle pressure on the core as it sits in the QU-I.C.-Load tool for testing. Many of us know the frustration of capping a core and then discovering the correctly cut key does not work. In that instance, a single pin chamber can be removed to the top of the QU-I.C.-Test tool for temporary adjustment.

Without the color-coded system, it's easy to mistake one chamber for another. Color-coding makes it easy, accurate and faster. Incidentally, the Ultra Security owner's elementary school children combine with zero mistakes — shouldn't we all?

Utilities of Color

Most urban areas across the country implement a well-established system of color-coded underground utility locator flags. Before any residential or commercial property owner would ever think of digging, the ground below must be marked for underground utilities, such as water, sewer, gas, electric, communications, etc.

If you have ever had your landline telephone service interrupted, it may have been due to a dig where an accidental cut through the underground cable occurred. Twenty-five wires are each wrapped within a larger conduit, and all are all color-coded individually with a combination of a base color and a tracer stripe color.

Whether underground, in a basement or sublevel area, many industrial and commercial buildings have seen fit to color-code the piping system: gas, electrical wiring, communication wiring, hot water, cold water, warm air, cool air, cold air return, sewer, etc. This has proven invaluable in terms of both efficient servicing and for safety reasons. — WML



For many years LAB has offered color-coded pins for locksmiths. One advantage of the colored pin is seeing when a pin has accidentally fallen into an adjacent pocket.

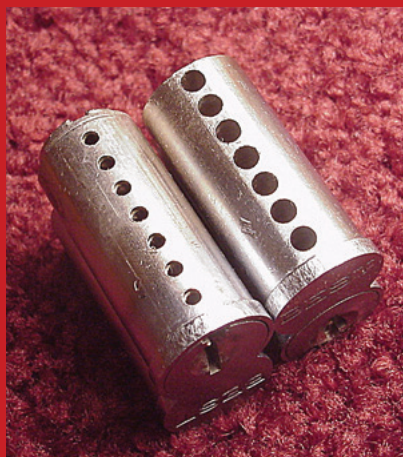
Get Me Color-Coded!

I have a few simple suggestions for locksmiths who now see the value in color-coding. Aside from purchasing the keys and tools already mentioned, here are some simple steps that you can take to begin getting colorized.



Blank boards. Section off your key blank board with colored masking tape, electrical tape or artist's tape. For example, use red to divide for automotive blanks, green for residential, blue for commercial, etc.

Special keys. Acquire discount nail polish in a variety of bright colors (red, orange, yellow, blue, green, purple, pink) and paint the heads of special keys for commercial or institutional customers. School principals are grateful when their school master key is red, differentiating it from the dozens of other identically shaped keys on their ring.



Without the color-coded system, it's easy to mistake one chamber for another. Here, all seven chambers look essentially the same, as do the smaller ejector holes on the bottom of the core.



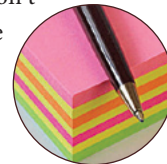
Key tags. Colored key tags can be indispensable for identifying keys related to a master key system. You could easily tag all keys under one master as yellow, blue under another master and red under yet another, and so on. Aside from marking room assignments on the white paper tag, you can also quickly assess what part of the master key system is present by merely seeing the key tag.



Files. Keep your customers records easily accessible by using colored file folders. Assign certain types of customers to a color, such as red for retail, yellow for residential, blue for

schools, green for commercial, etc.

Additional ideas. Don't forget to use Post-it note tags to mark special pages in key blank catalogs or with distributor catalogs, especially the pages you use



most often. Highlight in color the sections of your invoices to show customers their savings, or to emphasize past due amounts. Remember, the eye goes directly to a color on a black-and-white piece of paper.



You've now come to the end of the rainbow, metaphorically speaking, and the pot of gold awaits you. Inside that pot you'll find three things: safety, accuracy and efficiency. Color-coding can help to get you there. All you have to do is use it.

Carry on using text as a major source of communication, and continue to prosper monochromatically as you have to date. But by incorporating color-coding into your business, you can still have your cake and eat it too. And, in a colorful way, to be sure. ☺



William M. Lynk, CML, CPS, has been a locksmith since 1975 and is the owner of www.ICLSglobal.com. Bill is an IC specialist, an industry author, the subject matter expert on IC for ALOA, and an ALOA ACE instructor, teaching classes on interchangeable cores and master keying across the country. He has originated SFIC Technical Manuals for both national and international lock manufacturers, and maintains a working relationship with the major lock and security manufacturers throughout the world.